REMARKS

In the office action mailed on October 3, 2003, claims 1-5 of the above-referenced application are rejected under 35 U.S.C. § 103(a) as allegedly being obvious over U.S. Patent No. 6,084,407 to Ellis in view of U.S. Patent No. 6,603,877 to Bishop. Applicants respectfully traverse this rejection.

The present invention is directed to systems and methods for mapping optical texture information into a monochrome image data. This process is described in the application, for example from page 51, paragraph 125, through page 53, paragraph 132, and in the flow chart of Figure 20. An example of the present invention is the mapping of a texture model acquired from color images acquired during conventional optical colonoscopy to monochrome image data of a colon, such as CT image data. As set forth in Claim 1, the method includes segmenting the monochrome data set to acquire a first set of textures, segmenting the color optical image data into color classifications representative of a second set of textures, generating a texture model for the color classifications and matching the texture models to the first set of textures. This process provides for enhanced visualization of monochrome image data, such as CT data, to provide the user with a more realistic visualization of an object.

U.S. Patent No. 6,084,407 to Ellis ("the '407 patent") is directed to a system for determining the composition of animal tissue volume, i.e. percentage of fat versus muscle tissue, using MRI. Using the '407 patent, the degree of "marbling" (intramuscular fat)

can be determined prior to butchering an animal. The '407 patent is directed to grading

meat and is not directed to visualization of internal organs using texture mapping. The

'407 patent does not disclose acquiring or using optical image data, extracting texture

information from optical image data, or mapping texture information from optical image

data to a monochrome image dataset, such as MRI or CT data. Further, the '407 patent

does not disclose segmenting the monochrome dataset into a plurality of textures. The

passages in the '407 patent relied on in the office action for this element refer to

segmentation of MRI image data set based on tissue density, not surface texture. Thus,

the '407 patent is largely inapplicable to the present invention.

U.S. Patent No. 6,603,877 to Bishop ("the '877 patent") is directed to a method

and apparatus for optical imaging inspection. The '877 patent discloses the analysis of

optical image data to identify materials using a variety of parameters, including texture.

The '877 patent does not disclose the use of a monochrome image data set, such as CT or

MRI data. The '877 patent also does not disclose or suggest segmenting a monochrome

image data set into a set of textures or the mapping of optical texture features into a set of

textures in a monochrome image data set. In short, the '877 patent fails to correct the

shortcomings of the '407 patent as applied to the present invention.

Neither the '407 patent or the '877 patent disclose or suggest identifying texture

features in two different data sets. Neither the '407 patent or the '877 patent disclose or

suggest mapping texture features from optical image data to a monochrome image

dataset. Neither the '407 patent or the '877 provide any motivation to modify the

teachings of these patents to arrive at the claimed invention. It is respectfully submitted

that a *prima facie* showing of obviousness against the pending claims cannot be sustained

based on the '407 patent and '877 patent.

Applicants respectfully submit that pending claims 1-5 are patentable over the art

of record. Reconsideration of the rejections to claims 1-5 and allowance of such claims

in view of the remarks set forth above is respectfully solicited.

Respectfully submitted,

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